

Notice of Allowability

Application No.

10/006,891

Examiner

Brian J. Sines

Applicant(s)

CHANDRA ET AL.

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the response filed 10/6/2004.
2. ☒ The allowed claim(s) is/are 1-3,6-12 and 27-38.
3. ☒ The drawings filed on 13 November 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Response to Arguments

Applicant's arguments, filed 10/6/2004, with respect to the rejection of claims 1 – 3, 6 – 12 and 27 – 38 under 35 U.S.C. 102(b) as being anticipated by Chandra et al. (WO 00/39570) have been fully considered and are persuasive. This rejection has been withdrawn.

Allowable Subject Matter

Claims 1 – 3, 6 – 12 and 27 – 38 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 1 and 37, the cited prior art neither teach nor fairly suggest a sensor apparatus for detecting a target matter, wherein the sensor apparatus comprises: a chemical sensitive layer operable to react when exposed to the target matter; a piezoresistive material coupled to the chemical sensitive layer, wherein the chemical sensitive layer has a thickness thin enough, such that adsorption of the target matter into the chemical sensitive layer creates an interfacial tension at the interface of the chemical sensitive layer and the piezoresistive material that changes the electrical resistance of the piezoresistive material, but thick enough, such that the reaction the target matter with the chemical sensitive layer does not effect the bulk properties of the chemical sensitive layer enough to change the electrical resistance of the piezoresistive material; and an electrical circuit coupled to the piezoresistive material operable to detect the change in the electrical resistance of the piezoresistive material due to the interfacial tension.

Regarding claim 27, the cited prior art neither teach nor fairly suggest a method for detecting a target matter, wherein the method comprises the steps of: coupling the chemical sensitive layer to a piezoresistive material, wherein the chemical sensitive layer is configured such that the reaction of the target matter with the chemical sensitive layer creates an interfacial tension at the interface of the chemical sensitive layer and the piezoresistive material that changes the electrical resistance of the piezoresistive material, but such that the reaction of the target matter with the chemical sensitive layer does not affect the bulk properties of the chemical sensitive layer enough to change the electrical resistance of the piezoresistive material; exposing the chemical sensitive layer to the target matter; and detecting a change in the electrical resistance of the piezoresistive material due to the interfacial tension.

Regarding claim 38, the cited prior art neither teach nor fairly suggest a method for detecting a target matter, wherein the method comprises the steps of: exposing a chemical sensitive layer to the target matter; creating, by reaction of the chemical sensitive layer with the target matter, an interfacial tension at an interface of the chemical sensitive layer and a piezoresistive material that changes the electrical resistance of the piezoresistive material without affecting the bulk properties of the chemical sensitive layer enough to change the electrical resistance of the piezoresistive material; and detecting a change in the electrical resistance of the piezoresistive material due to the created interfacial tension.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably


accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jill Warden
Supervisory Patent Examiner
Technology Center 1700